

## REMARKS

Claims 1-8 stand rejected. New claims 9-21 have been introduced and are fully supported in the specification. Claims 1-21 remain in the case for reconsideration. Consideration of the new claims along with reconsideration of the rejected claims is respectfully requested.

### *Claim Rejections - 35 U.S.C. § 112*

Claims 2 and 6 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 2 and 6 have been amended as requested by the examiner.

### *Claim Rejections - 35 U.S.C. § 102*

Claims 1-2, 4-6 and 8 are rejected under 35 U.S.C. § 102(e) as being obvious in view of Bhattacharjee et al., U.S. Patent Application Publication No. 2004-0205066.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. Applicant respectfully submits that there are elements in the rejected claims which are not set forth in Bhattacharjee, therefore the rejections are believed unwarranted.

### Swear Behind

The Bhattacharjee et al. reference (US 2004/0205066 A1) was used to reject the claims of the present application under 35 U.S.C. § 102(e). Applicants wish to “swear behind” this reference. Although Bhattacharjee et al has an effective filing date of April 8, 2003 that precedes the present application’s effective filing date of October 28, 2003, the attached declaration of co-inventor Sanjay Verma attests that the present invention was conceived and reduced to practice prior to the effective April 8, 2003 filing date of Bhattacharjee et al. Accordingly, claims 1-8 are patentable under 35 U.S.C. § 102(e).

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### **New Claims**

Regardless, new claims 9-21 have been added to further clarify the patentable subject matter of the invention. For example, claims 9, 10, and 14 specify assigning activity identifiers to database access instructions that perform one or more operations on multiple data items in a database. The activity identifiers are assigned to and associated with the database access instructions independently of any relationship that may exist between the multiple data items in the database accessed by the database access instructions. This is clearly shown on page 8 of the present application where activity #1 and activity #2 are each associated with a group of database access instructions and are independent of any particular association between the data items accessed by the database instructions.

Claim 9, 10, and 14 also specify assigning multiple locks to the multiple data items corresponding with the operations performed on the multiple data items pursuant to the database access instructions and releasing the multiple locks when all of the multiple operations are completed for all of the database access instructions assigned to the same activity identifiers. This is also clearly described throughout the patent application and in the example described in pages 8 and 9 where each of activity #1 and activity #2 only releases locks on associated data items when all of the multiple data access operations associated with their particular activity #1 or activity #2 are completed.

The locking scheme described in claims 9, 10, and 14 allow data items to be locked for the duration of a specified group of multiple identified database access instructions (activities) regardless of any relationship between the data items. Therefore any arbitrary set of data items that happen to be associated with the group of multiple database instructions can be locked until all of the instructions are completed.

As described on page 9 at line 16, under activity #1 there are ten thousand S locks placed on the tuples and under activity #2 only 500 X locks are placed on the subset of tuples. Thus, 9500 tuples are not needlessly locked during the second activity #2 and can be immediately unlocked after the completion of the database instructions in activity #1.

There is nothing in Bhattacharjee that even remotely suggests a locking scheme that allows a group of arbitrary database access instructions to be assigned a common activity identifier and that then maintains all of the locks associated with those database access instructions until all of the database access instructions with the same activity identifier are completed.

Conversely, Bhattacharjee describes a locking scheme used for a multi-dimensional clustering (MDC) table. The locking scheme used in Bhattacharjee is further explained starting at [73] and shown in FIGS. 7A and 7B, where all locks are assigned and released according to the determined row and column relationship of the operations performed on the MDC table 30.

Bhattacharjee at [0014], starting at line 1 states a level of locking is provided at the block level, where a block is a set of sequential pages on disk containing rows having a particular set of dimension values. Paragraph 14 at line 7 goes on to state that a first locking level is applied to a MDC table and a second locking level is applied to the block within the table, and a third locking level applied to the rows within the blocks. Bhattacharjee also goes on to explain at [41], line 2 that each row has a unique identifier or “row ID” (RID) and at [46], line 6, that each block has an identifier or block ID (BID). Bhattacharjee later states at [146] line 2, that lock durations are employed during MDC table 30 block and row index scans and that a “lock duration” is the number of locks applied to a particular object.

As explained above, lock durations as specified in claims 9, 10, and 14 are associated with a group of associated database access instructions, not with the number of locks applied to a particular

object. Accordingly, claims 9-22 are also allowable under 35 U.S.C. § 102(e) over Bhattacharjee et al.


### CONCLUSION

For the foregoing reasons, reconsideration of claims 1-8 of the application as amended, and consideration of new claims 9-21 is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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